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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,564	01/05/2001	Marc Lamberton	FR920000023US1	4934
25259	7590	01/25/2005	EXAMINER	
IBM CORPORATION 3039 CORNWALLIS RD. DEPT. T81 / B503, PO BOX 12195 REASEARCH TRIANGLE PARK, NC 27709			TRAN, ELLEN C	
			ART UNIT	PAPER NUMBER
			2134	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/755,564

Applicant(s)

LAMBERTON ET AL.

Examiner

Ellen C Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. This action is responsive to communication: amendment filed on 7 September 2004, the original application was filed on 15 January 2001, with acknowledgement of a foreign priority date of 12 May 2000.
2. Due to amendment claims 1-5 and 7-14 are currently pending in this application. Claims 1, 7, 11, and 14 are independent claims. Claims 1-5 and 7-14 have been amended. Claim 6 has been canceled. The amendments to the claims are accepted.

Response to Arguments

3. Applicant's arguments filed 9 March 2004 have been fully considered but they are not persuasive.

In response to applicants argument on page 10 **“Thus, Denker (‘053) fails to describe or suggest a mechanism for embedding an initial sequence number receiver side “with connection parameters specified in the SYN message”**. The Office disagrees ‘053 shows embedding an initial sequence number in col. 4, line 63 through col. 5, line 43 “This ACK message (in addition to the information required by standard TCP) includes the encoded value and repeats the client’s requested options ... A counter associated with each address in the Friends Table can be used to keep track of the number of successful connections established”.

In response to applicant’s argument on page 10, the reference does not describe **“determining whether to establish a transmission control block for the client unit by evaluating an incremented value of the Initial Sequence number Receiver side included in the ACK message”**. The Office disagrees ‘053 show evaluating the incremented value in col. 5, lines 37-43 “A counter associated with each address in the Friends Table can be used to keep

track of the number of successful connections established as compared to the total number of connection requests from the client, and allow the server to expunge the client's address from the Friends Table if there are too many unsuccessful connection attempts".

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language

5. **Claims 1-5 and 7-14** are rejected under 35 U.S.C. 102(e) as being anticipated by Denker U.S. Patent No. 5,958,053 (hereinafter '053).

As to independent claim 1, "A method for defeating, in a server unit of an Internet Protocol network, a SYN flooding attack, said server unit running Transport Control Protocol to allow the establishment of one or more transmission control protocol connections with one or more client units, said method comprising the steps of: upon having activated the transmission control protocol in said server unit:" is taught in '053 col. 4, lines 44-55;

"listening for the receipt of a SYN message sent from a client unit" and "resuming to said listening step" is shown in col. 6, lines 59-60;

"upon receiving said SYN message: computing an Initial Sequence number Receiver side; wherein said Initial Sequence number Receiver side is embedded with connection

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parameters specified in the SYN message; responding to said client unit with a SYN-ACK message including said computed said Initial Sequence number Receiver side;" is disclosed in col. 4, line 58 through col. 5, line 43;

"responsive to receiving an ACK message, determining whether to establish a transmission control block for the client unit by evaluating an incremented value of the Initial Sequence number Receiver side included in the ACK message" is shown in '053 col. 5, lines 37-43.

As to dependent claim 2, "wherein the step of computing said Initial Sequence number Receiver side further includes the steps of: concatenating a randomly generated key with an identification of one of said transmission control protocol connections, said identification including: a client socket and a server socket; a server signature calculated by hashing said concatenation; and a concatenation of said server signature and a category index referring to a set of predefined transmission control protocol connection categories" is taught in '053 col. 7, lines 47-67.

As to dependent claim 3, "wherein said computing step further comprises the steps of: updating, in said server unit, a pseudo-random number (PRN) generator; holding a current key; remembering a former key; and using said current key as said randomly generated key for said computed Initial Sequence number Receiver side" is shown in '053 col. 10, line 50 through col. 11, line 19.

As to dependent claim 4, "wherein the step of concatenating said server signature and said category index further includes the step of picking up a category index within said

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set of predefined connection categories on the basis of the content of said received SYN message” is disclosed in 053 col. 7, lines 47-67.

As to dependent claim 5, “wherein said updating step includes the step of: updating said PRN generator at a rate not higher than an Maximum Segment Lifetime defined in said transmission control protocol connections” is taught in ‘053 col. 7, lines 47-61.

As to independent claim 7, “A method for defeating, in a server unit of an IP network, a SYN flooding attack, said method comprising the steps of:” is disclosed in ‘053 col. 4, lines 33-54;

“listening for an ACK message sent from a client unit” and “resuming said listening step” is taught in ‘053 col. 6, lines 59-60;

“upon receiving said ACK message, evaluating a value of an Initial Sequence number Receiver side that includes content comprising embedded connection parameters specified in a previously received SYN message as an authentic computer Initial Sequence number Receiver side; and responsive to evaluating the value of the Initial Sequence Number Receiver side as an authentic computed Initial Sequence number Receiver side, allocating resources for a transmission control protocol connection according to said content; and” is shown in ‘053 col. 5, line 1-43.

As to dependent claim 8, “further including interpreting a category index extracted from said value of the Initial Sequence number Receiver side” is taught in ‘053 col. 5, lines 1-43.

As to dependent claim 9, “wherein the allocating step includes the step of: selecting a predefined set of parameters, for said transmission control protocol connection, on the basis of the category index” is shown in ‘053 col. 11, lines 25-50.

As to dependent claim 10, “wherein the step of evaluating said Initial Sequence number Receiver side includes, upon receiving said ACK message, the steps of: having, firstly, selected a current key: getting said current key; concatenating said current key with an identification of said transmission control protocol connection” is disclosed in ‘053 col. 5, lines 1-43;

“said identification including: a client socket and a server socket” is taught in ‘053 col. 7, lines 46-61;

“hashing said concatenation of the current key and the identification, thus obtaining a re-computed server signature; extracting an acknowledgment field from said ACK message” is shown in ‘053 col. 9, lines 2-13;

“decrementing content of said acknowledgement field; extracting a server signature from the decremented content; and” is disclosed in ‘053 col. 11, lines 29-50;

“comparing said re-computed server signature and said extracted server signature” is taught in ‘053 col. 9, lines 20-33.

As to independent claim 11, this claim is directed to the computer program product of claim 1 and is rejected along the same rationale.

As to dependent claims 12 and 13, these claims contain substantially similar subject matter to claims 2 and 3 therefore they are rejected along the same rationale.

As to independent claim 14, this claim is directed to the system of the method of claim 1 and is rejected along the same rationale.

Conclusion

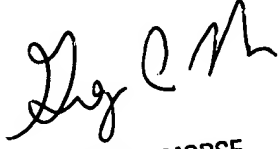
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen C Tran whose telephone number is (571) 272-3842. The examiner can normally be reached from 6:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory A Morse can be reached on (571) 272-3838. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ellen Tran
Patent Examiner
Technology Center 2134
13 January 2005


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